

SINC - LINK

1988

Vol. ~~6~~ No. 1

JAN - FEB

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TORONTO TIMEX - SINCLAIR USERS CLUB

P. O. Box 7274 Stn. A Toronto, Ont., M5W 1X9
Canada

Message from the Vice-President

By Jeff Taylor

Welcome 1988! This year should be eventful for the Toronto TS Users Club. A new executive was formed just prior to the end of 1987 and our first executive meeting, January 20th, proved to be most fruitful. There will be some format and procedure changes that will benefit both you and the club.

First of all, you should know that the club meets on the first Wednesday of every month at Forest Hills Collegiate Institute, 730 Eglinton Ave. West (approx. 1/4 mile east of Bathurst). Meeting times are from 7:00pm to 9:30pm with the session being called to order at 7:30. This new start time is to enable us to conduct the usual opening remarks and still have time to complete demonstrations and any other business which may arise.

Your club treasurer, Bill Lawson, informs us that the TTSUC has a healthy bank balance and that the transfer of signing authorities (3 signatures required) went smoothly.

George Chambers, the club secretary, liaison officer and chief mover & shaker tells us that the out-of-town membership is quite healthy so why isn't the in-town membership? To this end I've been calling our delinquent members to inform them of the changes in the club and to get them back out to meetings. Do you know of anyone who might have lost interest? Invite them to the next meeting (it's free!).

Newsletter Editor Greg Lloyd wants your articles, tips and reviews. They can be on any topic relating to Timex-Sinclair products and they don't have to be full length dissertations, just a few lines will do. Text from any printer (including the TS2040) is acceptable as long as it can be photocopied onto an 8 1/2 x 11 sheet. Give it a try, we'd like to read your comments, opinions or anything you've heard or read from other sources.

Demonstrations for the ZX81/TS1000, TS2068/Spectrum and QL are being scheduled and a list of upcoming demos will appear in the next issue of Sinc-Link. Our activities director assures us that he has lots to show you. Do you have something you'd like to show or demo? Speak to Rene Bruneau. He'll be happy to schedule it for you.

Tape librarians, Renato Zannese (TS2068) and Rene Bruneau (ZX81) are compiling new listings of their respective libraries and you're sure to be amazed at all the new tapes available for you to borrow. Reg Cottle (QL) has compiled a listing too and you can make arrangements with him to transfer data on microtapes.

Paper librarian Tom Aroella has made a list of all the printed material available to club members. Speak to him about that book or magazine you're looking for in our extensive library.

Some of the other activities to watch for: Teaching seminars for you of member-requested topics by our resident experts (watch for a schedule of seminars in Sinc-Link), Articles chronicling the history of our club, Question & Answer section in the newsletter and a Swap & Sell event at the May 4th meeting.

President Ed Maybee and I hope that together we can all keep this club viable, interesting and enjoyable. We need your help to do so. Take an active interest and you'll get far more out of this club than you'd have ever thought possible.



"HIT ANY KEY TO CONTINUE"

BOB'S NOTEBOOK

PRO/FILE 2068 REVISITED 871012

Tom Woods' file management program (PRO/FILE) with the machine code sort included (BREAKTHROUGH: Upgrade for Pro/file 2068 Issue #1) is a very acceptable program for information storage and retrieval. The upgrade gives the added advantage of a fairly fast machine code sort. Those of you who have not tried it should write to Tom at PO Box 64, Jefferson NH, 03583 USA and order a copy. But for those who already have the upgraded version, here are some notes on using it and, of course, tailoring it to suit individual needs. I modified the BASIC to work with the Larken DOS (ie, LKDOS). This version uses Peter Hacksel's printer interface code which George Chambers had imbedded into the profile machine code. George and I worked on some other changes which are included below.

1. We changed the SAVE routine to save DATA only. This required saving the value of p (the length of current data) in the array. Why save the whole program when only variable p had to be kept. So, the SAVE routine became:

```
107>IF x$="SAVE"THEN RANDOMIZE p:LET d$(LEN
d$-1)=CHR$ PEEK VAL "23670":LET d$(LEN d$)=
CHR$ PEEK VAL "23671":RANDOMIZE USR VAL "100
":SAVE f$+".A$"DATA D$():GO TO PI/PI
```

This puts the value of p at the tail end of d\$ and this is decoded on LOAD as follows:

```
5510>INK 7:CLS :RANDOMIZE USR 100:CAT ".A$",
5520 POKE VAL "23658",NOT PI: PRINT AT 16,1;
PAPER 5; INK 0:"WHAT FILE NAME DO YOU WISH
":AT 17,1;"TO LOAD ": INPUT F$: PRINT f$:
RANDOMIZE USR 100: LOAD F$+".A$" DATA D$()
5530 LET p=(CODE d$(LEN d$-1)+CODE d$(LEN d$)
*256): POKE VAL "23658",VAL "8": GO TO 1
```

Line 5510 displays the part of the disk catalog with .A\$ extensions. Line 5520 LOADS the array and 5530 decodes the value of p from the last two bytes of d\$.

2. You can size an array differently from the original (ie, 28020) and SAVE the array. This will be taken into account when you LOAD it, despite the DIM statement in LINE 9996. To change the array size for a SAVE, alter DIM d\$(28020) to whatever you want: do a CLEAR and GO TO 9996. Select "C" and create a new file. Here is the new listing from 9990 to end.

```
9990>CLEAR VAL "34000":BORDER NOT PI:PAPER NO
T PI:INK NOT PI:RANDOMIZE USR 102
9992 CLEAR VAL "63487": RANDOMIZE USR 100: LO
AD "profil.C1"CODE : REM Includes LPRINT @ 6
5000
9993 POKE VAL "26704",VAL "254": POKE VAL "65
535",NOT PI
9994 PRINT AT VAL "5",VAL "8": PAPER PI/PI; I
NK VAL "7": "* PRO/FILE 2068 *":AT VAL "7",VA
L "4": PAPER NOT PI:"1984 By THOMAS B, WOOD
S":AT VAL "10",VAL "11": INK VAL "6": "P.O. B
ox 64":AT VAL "11",VAL "6": INK VAL "6": "Jef
ferson, N.H. 03583"
9996 DIM d$(28020): LET p=20: LET d$(1 TO 20)
="*SEARCH IS COMPLETE*": LET a$="1/2/3/0": L
ET c$="": FOR x=1 TO 3: LET c$=c$+CHR$ x: NE
XT x: LET c$=c$+CHR$ 0: LET s=0
9997 POKE VAL "23658",VAL "8": PRINT AT 19,2;
INK 7;"Press""C"" to CREATE a new file or
""L"" to LOAD an existing one": INPUT y$: P
RINT AT 19,0;D$(100 TO 164): IF y$="L" THEN
GO TO 5510
9998 PRINT AT 19,4; INK 7;"ENTER A NAME FOR T
HIS FILE": INPUT F$: IF f$="" OR LEN f$>10 T
HEN GO TO 9998
9999 GO TO 1
```

3. The machine code sort is very good. It does have one annoyance and that is: unless you are printing a copy of the data, you have to sit with your finger on the ENTER key until the sort is done and this can take a few minutes. Here is the mod to let you go for a coffee while the machine does its thing.

```
5200>LET a=1:LET sfs=0:PRINT AT 14,0:PAPER 0;
INK 7;"PRINT OUT? (Y/N)",,,,,,:INPUT Y$:LET
Y=Y$="Y"
5221 IF NOT Y THEN INPUT "Superfast sort? 1=
yes;0=no"sfs
7202>IF Y=0 AND sfs THEN CLS :GO TO 7000
7203 IF Y=0 AND NOT sfs THEN GO TO 1050
7221 IF INKEY$<>" THEN GO TO 1
```

With these changes, PRO/FILE should meet the needs of the most exacting users. Saving just the array saves disk space; the AUTOSearch routine is easier to use; the appropriate part of the disk catalog is displayed for your LOAD selection.

R.H.Mitchell

It's been a while since I have turned on my 2068 and used Tasword. Seems to be a familiar refrain. Last summer my QL was off for so long that the battery, on my battery backed clock, died of boredom. Maybe it is true that if you don't use it, you lose it! Sure is a shame that earning a living interferes with ones hobbies! Of interest to ALL TS Users is the Florida Winterfest, to be held March 4,5 and 6 in Orlando Florida. Those lucky enough to be able to attend will be able to combine both a TS and a regular vacation. Just to ensure that this column is a true computer oriented column I am sending it to Greg via the 2050 and he will print it out using his printer. Isn't that what everybody does?

SPECTRUM

The ever popular game "Guess What The Next Spectrum Will Be Like" is still being played, with glee, in the UK. The latest guess is that a SPECTRUM +4 will hit the marketplace soon and that it will probably have a proper Sinclair edge connector, Thus making it compatible with everything prior to the SPECTRUM +3 (which is not compatible). The SPECTRUM +3 apparently does not like having another 3" drive attached - you can copy from drive 1 to 2 but not the other way. There is also a list of standard SPECTRUM +3 bugs being circulated. As I keep saying my SPECTRUM 128 looks better all the time, especially with a MULTIFACE 128 attached to IF1 and the 2 microdrives. But, I am still looking for a used BETA 128 DDI, if anyone has one for sale. Believe it or not, there may yet be SPECTRUM Clones available, with 32K ROM, 128K RAM (8x16 pages) 2800 (6MHz), a proper keyboard and lots of ports. One manufacturer already has a working prototype. I have seen some local interest in BETA BASIC and rightly so as it is quite advanced compared to Sinclair Basic. Well Andrew Wright, creator of Beta Basic, is purported to be a consultant for the Clone Basic. Where do I send my money?? Have been playing around with THE RAM MUSIC MACHINE and can say without fear of contradiction that this is one sweet "complete home computer music system". That is the way RAM ELECTRONICS describes their own product. If I had any musical talent I would probably disagree (somewhat) with this hyperbole, but, since I am one of those people that say "I only know that I like it" - that is the best decription. A sound sampler and a vivid imagination gives a user hours of enjoyment! If anyone has both the Beta Disk interface and THE LAST WORD, there is a new and improved version of TLW that is being marketed by TROJAN PRODUCTS at 166 Derlwyn, Swansea SA2 7TF UK, for approx '15.00 (sterling). A German company is marketing a replacement ROM for the BETA Plus interface that uses pull down menus. It's on order, so I should know all about it by the next issue.

2068

One very important piece of 2068 news is that TS 2068 UP-DATE, published by Bill Jones 1317 Stratford Ave, Panama City FL 32404, seems to be a success, with over 140 subscribers, as of end of Nov. last year. With

all the magazines and newsletters that have bit the dust it sure is nice to see the birth of a new one. By far the most important piece of news pertains to George Chambers. He has made MTERM II into a disk interactive program and it now operates the way we always thought it should. See the article in TS-UPDATES. Also of note is the Jack Dohany Mscrip' modifications that are custom for your setup. Jack is also marketing a version of Profile and VuCalc for full size printer.

QL

Lots of activity in this section. I still marvel at being able to buy serious application software and at having this software upgraded on a continuing basis. Imagine - a market that is not 99.9% games oriented! New software includes SPEEDSCREEN - which as the title suggests, speeds up your screen presentations, by augmenting the video RAM - FLASHBACK - < advertised as being a flexible database and was written by the author of TASKMASTER and SPELLBOUND -TEXT87 - a WYSIWYG word processor, but don't buy it yet as I placed an order Sept 30th and have not received to date, I have written to them and expect an answer soon. While talking to Tom Bent, Quanta Librarian and editor of QUANTUM LEVELS, I was advised NOT to buy or recommend the SCHON REPLACEMENT KEYBOARD. Tom took his apart and noted the keyboard traces are simply silver paint sprayed in place and that the key contacts are copper. Two things wrong (1)the board cannot be repaired and (2) the two metals are not compatible (remember your physics). That is why owners of this keyboard (myself included) get all those repeat keypresses on the screen. While on the subject bounce, QL World is selling a keyboard Controller Chip (really a V1.2 8049, IC24). While it does nothing for a QL with a Schon, it does seem to control bounce on a stock QL. Now, on to hardware etc. How about installing a SPDT microswitch on your 16K eeprom cartridge. It is simple to do and allows you to disable this power hungry device, before energizing your QL. Simply cut the trace between pin 6 of the 74LS10 and pin 22 of the eeprom, then solder a (short as possible) wire from pin 22 of the eeprom to the centre post of the SPDT switch. Next, solder a wire from pin 6 of the 74LS10 to one side of the switch and lastly solder another wire from pin 28 (+5v) of the eeprom to the other side of the SPDT, but this wire must have 2.2k resistor in it's circuit. The switch and resistor can be purchased at Radio Shack. Anyone for 3 1/2 " drives? Steals on Steeles, a local Computer Suupermarket, is selling a Panasonic DSDD 80 track 135tpi as a kit for installation in a 5 1/4 " 12M drive case. It comes with an adapter for installation in a 5 1/4 " case, a power adapter cable and a 34 conductor ribbon cable with 5 connectors. Mine installed as drive 3 and the 5 connectors off the cable and in my connectors off the cable to be used at a later date. The price is \$169 (\$128 US). Now for my latest goodie - Tony Tebby's Eeprom Programmer. I have read all the hype and digested it with a grain of salt. But, I am happy to say, all the hype is true. This device looks like a QL disk interface with an outboard ZIF socket, where the

```

n 1 BRIGHT 0: BORDER 3: PAPER 5: INK 1
2 DRAW 255,0: DRAW 0,175: DRAW -255,0: DRAW 0,-175:
3 PRINT AT 3,10:"Directory"
10 FOR n=6 TO 18 STEP 2
11 REM line 10 is amount of programs on disk>=7
15 READ a$
20 PRINT AT n,10;a$
25 NEXT n
26 PRINT AT 20,3:"Enter=Select 6=down 7=up"
30 DATA "Jet Set Willy","Knight Lore","Highway Encounter","Skool Daze","Saboteur",
" Gyroscope","Dynamite Dan"
31 REM line 30 is name of programs. Change titles for different games.
32 REM maximum amount is 7
50 LET r=6
55 PRINT AT r,8:">"
60 IF INKEY$="" THEN GO TO 60
65 LET m$=INKEY$: LET pr=r
70 IF m$=CHR$ 13 THEN GO TO r/6*100
75 IF m$="6" THEN LET r=r+2
80 IF m$="7" THEN LET r=r-2
85 IF r<6 OR r>18 THEN PAUSE 8: PRINT AT pr,8:" ": GO TO 50
90 PAUSE 8: PRINT AT pr,8:" ": GO TO 55
100 CLS : PRINT "Loading Jet Set Willy"
105 REM Disk Command + Screen$ Command
120 STOP
133 CLS : PRINT "Loading Knight Lore"
138 REM Disk Command + Screen$ Command
143 STOP
167 CLS : PRINT "Loading Highway Encounter"
170 REM Disk Command + Screen$ Command
175 STOP
200 CLS : PRINT "Loading Skool Daze"
205 REM Disk Command + Screen$ Command
220 STOP
233 CLS : PRINT "Loading Saboteur"
238 REM Disk Command + Screen$ Command
243 STOP
267 CLS : PRINT "Loading Gyroscope"
271 REM Disk Command + Screen$ Command
276 STOP
300 CLS : PRINT "Loading Dynamite Dan"
305 REM Disk Command + Screen$ Command
310 STOP
1998 STOP
1999 REM Autoload Save
2000 CLEAR 32000: RESTORE 2050: FOR n=23296 TO 23304: READ a: POKE n,a: NEXT n
2010 RANDOMIZE USR 23296
2020 RANDOMIZE USR 100: OPEN #4,"dd": GO TO 1
2050 DATA 205,102,0,62,3,0,211,244,201
2060 REM Run only when the directory has the proper load commands

```


Coloured Text Printouts with MSCRIPT

F Jeff Taylor

In the previous couple of issues I have reviewed an interface and software designed to produce colour plots by mating a TS2068 to a Commodore VIC-1520 colour plotter/printer. For the utility user, John McMichael has produced a program called CMS/1520 which enables you to use the 1520's colour printer capabilities along with the power of Customized MSCRIPT.

Now you can produce text in four colours (blue, black, red or green), four character sizes (10,20,40,80cpl), underlined and rotated all with the ease that MSCRIPT V5 or 5.2 allows you.

As a printer the 1520 is certainly adequate. As you can see in this review, it produces an easy-reading character set that is actually drawn on the paper with ink pens (no more worries about printer ribbons!).

The instructions to load CMS/1520 are remarkably simple. First, load Customized MSCRIPT versions 5 or 5.2, break into basic, load CMS/1520 code, etc. one line and add four pokes, then RUN. The printer is now ready to display anything you type by using the functions offered in MSCRIPT. There are no other changes required and there are even five new characters available beyond the TS2068 set.

Anyone using the TS2068/1520 combination will welcome CMS/1520 as a necessary addition to their word-processing capabilities.

For more information contact:

Mr. John McMichael
1710 Palmer Drive,
Laramie, Wyoming, USA, 82070

Here is a simple program a person can use to make a autoload directory program. It is set up for 7 games and there loading screens. This is for the new Larken Disk users who have a regular D.S.D.D. disk drive, which formats to 409600 bytes per disk. Once all the proper loading names have been changed, you can type 60T0 2000.

All loading instructions are on the program.

By Renato Zannese

SEE
Pg. 6

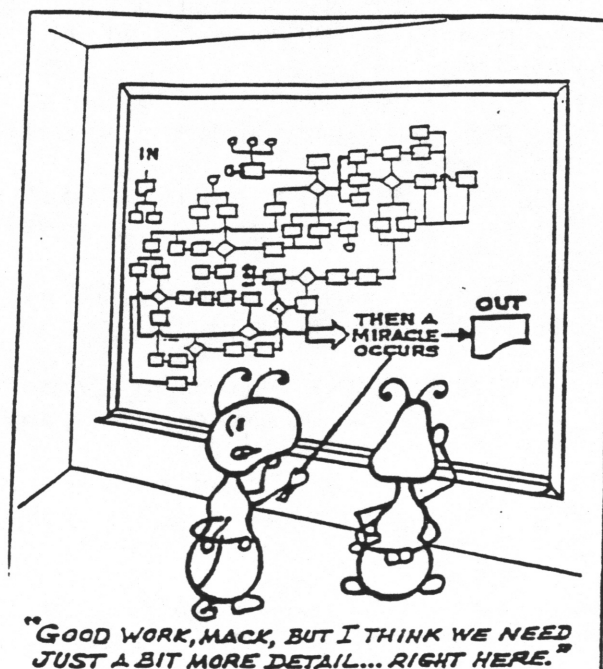
Questions

Do you have
a question
about TS
computers?

Ask Us!

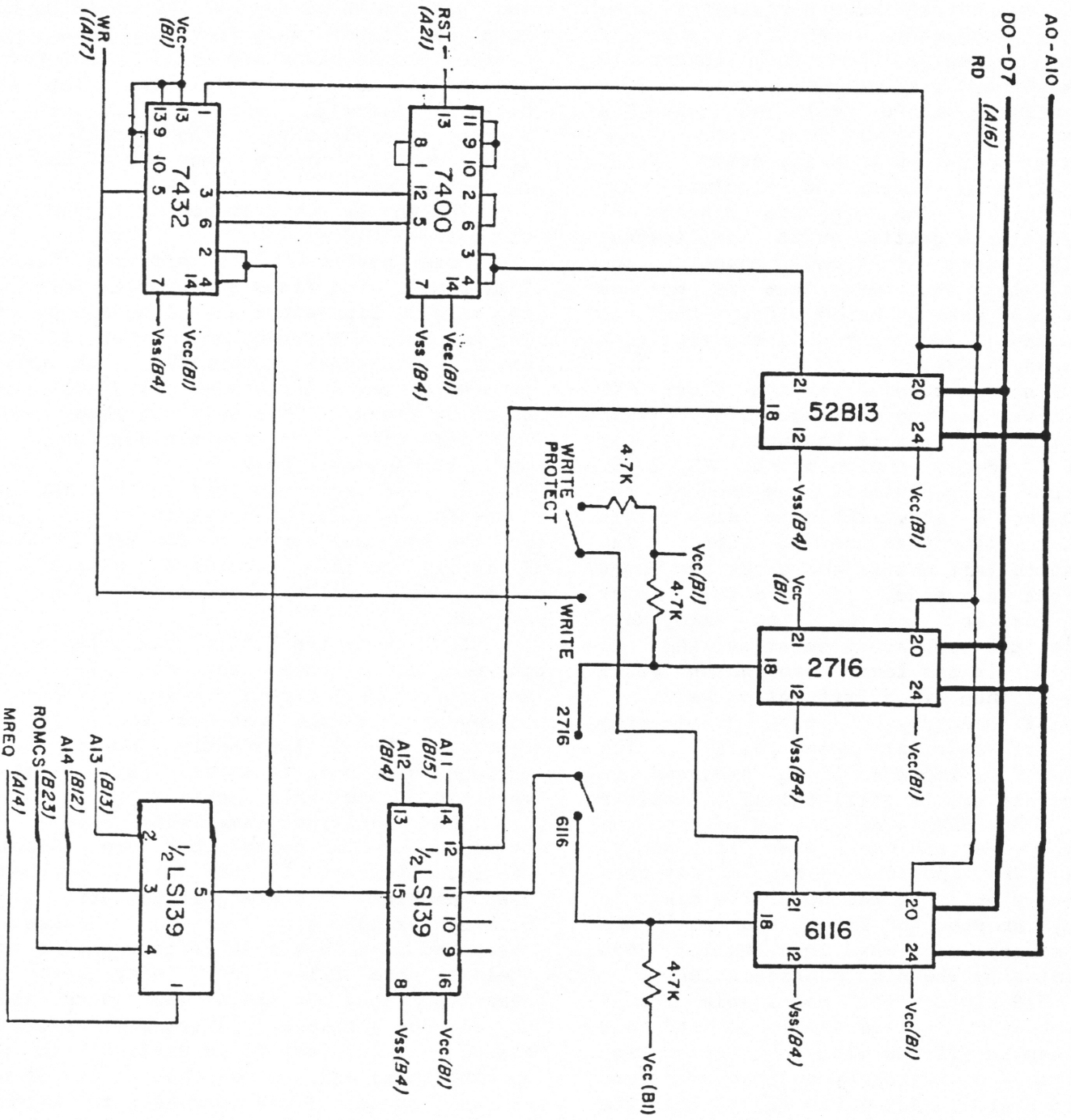
Send questions to the
Sinc-Link Editor
Answers will be
printed in the
following issue

Answers



SINCBITS
CONT
→

drive cable should be. The operating system is on eprom and the burning voltages are internally generated. This item is worth the increasing price. Now that the pound is approx. \$2.55 Canadian, it is essential that all UK purchases be well thought out. So try and at least talk over potential purchases if you cannot investigate. That is the reason that I subscribe to QL World and to QUANTUM LEVELS. Another economy is to join QUANTA and use the club Library, which is now over 10 Mbytes!



ZX81
EPROM
BOARD

DATA/ADDRESS LINE	CHIP	COMPUTER BUS
A0 -	8 -	B7
A1 -	7 -	B8
A2 -	6 -	B9
A3 -	5 -	B10
A4 -	4 -	B22
A5 -	3 -	B21
A6 -	2 -	B20
A7 -	1 -	B19
A8 -	23 -	B18
A9 -	22 -	B17
A10 -	19 -	B16
D0 -	9 -	A4
D1 -	10 -	A5
D2 -	11 -	A6
D3 -	13 -	A9
D4 -	14 -	A10
D5 -	15 -	A8
D6 -	16 -	A7
D7 -	17 -	A1

OUR COMPUTERS IN PORTUGAL K5XY

When I was in Mexico City, I tried to find some trace of our Sinclair computers. Some time ago we published a review of some Sinclair type computers which were supposed to be made in Mexico, but they apparently have sank without a trace.

My efforts in Portugal had quite a different result. There I saw more Timex and Sinclair computers than any other kind. Notice I said Timex and Sinclair not Timex/Sinclair. The corporate lineage of our computers is getting quite complicated, especially since Amstrand bought out Sinclair; but who makes them is not as important as what is being made. Let me tell you what I found for sale starting with the least expensive.

The least expensive was the Timex TC 2048. It was selling for about \$160. It is really made by Timex in Portugal. It is sort of a reduced version of the T/S 2068. The keyboard is the chiclet type used on the T/S 1500 and is about the same size. That makes it smaller than the T/S 2068. The main feature left out is the cartridge port on the right hand side. It is a full color computer however. It has the same keys almost in the same arrangement as the ZX Spectrum+. It has fewer keys, which means that more of them are multifunction keys.

The ZX Spectrum+ was prominently offered for sale at about \$170. The Spectrum+ is imported from Amstrand in Great Britain but is still called a Sinclair computer. The ones I saw may be part of the inventory Amstrand got when it bought Sinclair. The Spectrum+ has a keyboard which looks similar to the QL. The case is noticeably shorter and wider than the QL. It has several more keys than the T/S 2068 but is basically the same configuration.

The T/S 2068 was obtainable for a little over \$180. I was unable to find out if the examples offered were new production from Portugal or inventory shipped over from the United States. All I can say is that the boxes were printed in English.

The ZX Spectrum+2 was being sold for about \$285. This computer is much different than a Spectrum+, with a built in standard cassette tape recorder, although the recorder is the most obvious change. Another obvious change is the keyboard, which is similar to a standard typewriter. All the keywords like GOTO and RUN are completely missing. They will have to be

spelled out. As compensation for this loss, one has a much more straightforward keyboard with far fewer multifunction keys. The various characters are still scattered in some pretty non-standard places. The space bar is there in its usual place but much shorter than standard. The overall size is about one inch shorter than the QL and about an inch wider.

The QL was for sale too. It was going for over \$350.

Some particularly interesting Sinclair (Amstrand) and Timex accessories were also for sale. Sinclair was selling add-on wafer drives for the Spectrum computers which needed a special interface. Of greater interest, was a large disk drive unit being sold by Timex. This unit contained one 3 1/2 inch disk drive with a place for another one. It cost over \$320.

I was able to read about the next computer (some consider it to be the last) in the Spectrum series - The ZX Spectrum+3. Basically it is a Spectrum+2 with a 5 1/4 inch disk drive instead of the tape recorder.

An intriguing little note appeared in one Sinclair computer magazine. The editors were trying to create a data base of the addresses of all who had tried out the Sinclair ZX88. Apparently Sinclair is not through with computers yet, but no details were given about this machine.

The magazines available were very revealing. It seems that the Sinclair machines (except for the QL) have become game machines. The magazines carry almost nothing except game reviews. Games are cheap and come in a wide variety. The store shelves were filled with many feet of cassette tapes containing games with almost no serious software. Games are apparently coming out so fast it is difficult to keep up with them; and, given the quality of many of the games, I saw no reason to keep up with them.

The magazine, Sinclair QL World, was well worth reading although one slim 60 page issue cost over \$3.30. There was not a game review in the issue although many of the advertisers did offer good games for the QL.

Accessories were considerably more expensive than in the US. It was impossible to get any monitor for less than \$100. Color monitors were almost twice as

Diskdriving with a Joystick

Do you have a old Larken interface that doesn't seem to work with your Kempston interface? Recently I had trouble with my joystick. It seemed to work alright without the disk interface plugged in, but it was a different story when the interface was plugged in.

Talking to friend, he suggested that they may occupy the same port. It worked out that port 31 or A5 is also used by the Larken Interface.

A way to solve the problem is to disable the joystick interface while the diskdrive is in use and then enable the interface after your game has loaded.

(NOTE: HERE IS A TABLE)

By Renato Zannese
02.01.88

Of Interest to QL Owners
by G. Chambers

Our club received a letter from David Sullivan re the starting up of a new QL Users Club. I quote from his letter:

"Dear Club Officer,

"...I am in the process of starting a Sinclair QL users group. I got the QL bug at work. I am a computer technician with a Keene-based computer service center. One time we were an authorized Sinclair service center. I have access to service literature and bulletins. I thought it would be beneficial to contact other clubs to solicit members.

"This group will be a forum for QL owners world wide. My immediate objective is to establish a software library. Anyone wishing to join may do so by sending public domain software to the above address. Each acceptable program will earn credit for a withdrawal from the library. Any software submissions should be accompanied by return postage, or microdrive cartridges will not be returned.

"Once a membership has been established a newsletter will be put out. The letter will either be paid for with dues, or sold on a per copy basis. This will be to cover the expenses to put out the newsletter.

"The overall objective is to establish a vehicle to disseminate information and software at the most reasonable cost (preferably just the cost of postage and materials).

"Any help you can give in the establishment of this group would be appreciated. Thank you very much. Sincerely, David A. Sullivan." End of quote.

My own thoughts are: Is the international users group, QUANTA, not doing a satisfactory job? If any of you QL owners wish to pursue this, write to David at this address:

P.O. Box 353, Gilsum, N.H. 03448 U.S.A.

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SINC-LINK

Bob Mitchell 1988

MACHINE CODE for LOADING & SAVING TRACKS

62997 C3 F6

63000	0328F6	JP	63016	LOAD entry point
63003	0345F6	JP	6304E	SAVE "
63006	F3	DI		Turn ON Cartridge
63007	0D6200	CALL	98	
63010	09	RET		
63011	3A6400	LD	A, (100)	Turn OFF Cartridge (EXIT)
63014	F8	EI		
63016	09	RET		
63018	0D1EF6	CALL	63006	LOAD a track routine
63019	3A8050	LD	A, (23728) *	
63020	321020	LD	(3221), A	
63023	0D7E00	CALL	126	get curtrk
63026	0D7E00	CALL	126	load buffer from disk
63031	217020	LD	HL, 63504	
63034	1110F3	LD	DE, 63504	
63037	010007	LD	BC, 1984	move buffer data to 63504
63040	ED80	LDIR		1984 bytes moved
63043	0328F6	JP	63011	EXIT
63046	0D1EF6	CALL	63006	SAVE a track routine
63049	3A8050	LD	A, (23728) *	
63051	321020	LD	(3221), A	
63054	2110F3	LD	HL, 63504	
63057	117020	LD	DE, 63504	move buffer data back
63060	010007	LD	BC, 1984	to 8304
63063	ED80	LDIR		
63066	0D9E00	CALL	150	CHECK if PROT sticker
63069	0D7E00	CALL	126	get curtrack
63071	0D7E00	CALL	126	SAVE buffer to disk
63074	0328F6	JP	63011	EXIT

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* Track# is POKED into
23728 in BASIC line.
e.g.

```

70010 00 00 00 00 00 00 00 00
70020 00 00 00 00 00 00 00 00
70030 00 00 00 00 00 00 00 00
70040 00 00 00 00 00 00 00 00
70050 00 00 00 00 00 00 00 00
70060 00 00 00 00 00 00 00 00
70070 00 00 00 00 00 00 00 00
70080 00 00 00 00 00 00 00 00
70090 00 00 00 00 00 00 00 00
70100 00 00 00 00 00 00 00 00

```

```

100 LET curtrack = 23728
110 LET number = 0
120 POKE curtrack, number
130 RANDOMIZE USR
63000 REM to Load

```

- Notes:
1. Use this routine to eliminate need for using disk LDOS's with LKDOS.
 2. This program was developed using Zeus, then relocated to ORG 63000 using "reloc8."
 3. Addresses (e.g. 63504) equate to LDOS64 + 2000

LARKEN LOAD/SAVE ROUTINES
George Chambers

Bob Mitchell, whose column appears regularly in our newsletter, has sent me some material on a M/C utility for the Larken disk system. We include it in this issue. Bob is presently in Florida, and says in his letter:

"I started off the year with a go at eliminating the need for LDOS64 etc. in my utilities. I had taken a good look at the disassembly of Larry Kenny's Move routine and decided I could use some ideas there to do a M/C routine that would meet my needs. I think it might meet yours, and others in the club might find it useful. Since I have no typewriter or big printer I have done a sheet in longhand which I enclose, and which could be printed as is in the club newsletter." end of quote.

Bob's routine will be useful for owners of the original Larken system, the one that stores 1960 bytes of data per track. You should also have the This includes most of the Larken owners in our club. The code provides two functions, namely LOAD a track into memory, and SAVE a block of memory to a disk track. When I tried it out on my "DOCTOR" program I found that an additional routine was desirable. One of the routines in "DOCTOR" looks at each track on the disk in succession. Bob's LOAD routine moved the head back to track 0 every time that a track was read, causing a great deal of unnecessary head movement. I found another DOS call which eliminated this head movement and rearranged Bob's code to incorporate this third function. I include a disassembly of it; compare it to the original.

The DOS calls mentioned plus other data are contained in a three-page brochure put out by Larry Kenny. Most LARKEN owners in our club have a copy. If you do not have it and are interested, ask me for a copy.

Since Bob's explanation may be a bit obscure to non-M/C fans (I have provided my code in a BASIC program so that you can more easily get it into use. Enter the BASIC program, RUN it. Then save it to disk by PRINT USER 100: SAVE "RHMDOS.C2" CODE 63000,110. The code could be given any name. I suggest that for consistency you name it as above.

The "reloc8" mentioned in Bob's article is a BASIC program he has written (and which is in our club program library). It is useful in moving M/C around in memory, while "LDOS64" is the original LARKEN EPROM DOS captured and used as a disk DOS.

```

10 RESTORE 200
20 FOR n=63000 TO 63110: READ
a: POKE n,a: NEXT n
30 STOP
200 DATA 195,43,246,195,72,246,
195,104,246,243
201 DATA 205,98,0,201,58,100,0,
251,201,205
202 DATA 33,246,58,176,92,50,29
,32,205,126
203 DATA 0,205,123,0,33,112,32,
17,16,248
204 DATA 1,192,7,237,176,195,38
,246,205,33
205 DATA 246,58,176,92,50,29,32
,33,16,248
206 DATA 17,112,32,1,192,7,237,
176,205,150
207 DATA 0,205,126,0,205,120,0,
195,38,246
208 DATA 205,33,246,205,129,0,2
05,123,0,33
209 DATA 112,32,17,16,248,1,192
,7,237,176
210 DATA 195,38,246,0,0,0,0,0,0
,0,0
1000 STOP

```

63000	C32BF6	JP	63019
63003	C348F6	JP	63048
63006	C368F6	JP	63080
63009	F3	DI	
63010	CD6200	CALL	98
63013	C9	RET	
63014	3A6400	LD	A,(100)
63017	FB	EI	
63018	C9	RET	
63019	CD21F6	CALL	63009
63022	3AB05C	LD	A,(23728)
63025	321D20	LD	(8221),A
63028	CD7E00	CALL	126
63031	CD7B00	CALL	123
63034	217020	LD	HL,8304
63037	1110F8	LD	DE,63504
63040	01C007	LD	BC,1984
63043	EDB0	LDIR	
63045	C326F6	JP	63014
63048	CD21F6	CALL	63009
63051	3AB05C	LD	A,(23728)
63054	321D20	LD	(8221),A
63057	2110F8	LD	HL,63504
63060	117020	LD	DE,8304
63063	01C007	LD	BC,1984
63066	EDB0	LDIR	
63068	CD9600	CALL	150
63071	CD7E00	CALL	126
63074	CD7800	CALL	120
63077	C326F6	JP	63014
63080	CD21F6	CALL	63009
63083	CD8100	CALL	129
63086	CD7B00	CALL	123
63089	217020	LD	HL,8304
63092	1110F8	LD	DE,63504
63095	01C007	LD	BC,1984
63098	EDB0	LDIR	
63100	C326F6	JP	63014
63103	C9	RET	

ITEMS GLEANED FROM OTHER CLUB NEWSLETTERS
by G. Chambers

The Jan 88 issue of the PLOTTER reports that one of their members had sent 5 2068's to Dan Elliot, of Promiseland Electronics for repair, and that he has received three of them back, within 5 weeks, repaired, for a total cost of \$75 US. The other two need SCLD chips, and it will take a bit longer to repair them.

Another newsletter reports satisfaction with 2068 repairs by one of it's members. Incidentally, Ken Gamey, one of our members, has sent his there also, so I expect to be able to report on his experience also.

The PLOTTER also reports that their circulating program tapes get hung up in their circulation. Some thing as I found happened to our circulation of newsletter to out-of-town members. They get hung up with an uncooperative person.

The Nov 87 issue of the CATS newsletter has a do-it-yourself article about connecting the QL to an RGB monitor. A little circuit uses two chips to buffer the signals from the QL. The same issue also has articles on adding a reset switch to your 2040 printer, and one about a circuit to let your 2068 power supply run cooler. These are repeats of articles from other newsletters.

The December '87 issue of the same newsletter has an article on adding a reset switch to your QL. Also an article on how to use the QL program 'ARCHIVE' effectively.

The Nov 87 issue of the L.I.S.T. newsletter A & J MicroDrive, now known as A & J Assembly will no longer supply microdrives. The reason is said to be because they can no longer obtain the cartridges.

This issue also has an article on fitting 16K under the hood of the ZX81, et al.

Also mentioned is a speech synthesizer which is available, and which can be hooked up to an RS232 port, such as the SER2 on the QL. The units are surplus, sell for \$39US (I believe). To quote the short article in the newsletter "...and very easy to use as well. Just plug into the serial port, plug the included power supply into an outlet, and turn on the power. The units will announce their presence with and OK. Then just open a channel to the serial port and PRINT to it-yes text to speech is all there is to it!" The item is sold by Richard Moldovan, 7414 East Guernavaca Place, Tucson, AZ 85710.

The same issue has a lengthy article on how to run your ZX81 programs to an IBM PC. You upload them using a combination of a bit of hardware, software, and 'sweatware'! Briefly, the idea is to load the ZX81 file into a 2068 using UPLOAD 2000 (software), then use an interface on the 2068 to provide an RS232 port on the 2068. Also a 'null' modem and a 'gender changer'. The article did mention 'sweatware', now you see what it means!

The Chicago Area TUG newsletter 'NITE-TIME NEWS' has a review of Tom Woods' NVRAM board. This appears to be 32K supplementary nonvolatile memory for the 2068. You will have to read the review to see if this is the thing for you. Seems to leave me a bit cool about it.

If anyone thinks they would like to get into desktop publishing with the 2068 they should ask for a copy of Pixel Print Press. This is a three page 'newsletter' put out by LemKe Software Development to show off their program 'PIXEL PRINT'(cost US\$20). The n/1 is a demo of what their program can do. Ask me for a copy.

REPAIR A LARKEN Disk Repair Utility by George Chambers

One of the things that I have experienced with the LARKEN disk system, particularly the earlier vint. was the occasional overwriting of the Directory track. This would result in the loss of all the programs on the disk. Now, these programs were not really lost, just inaccessible because of a messed-up track 0. I was always able to reconstruct the Directory manually, and after a while I wrote "DOCTOR" to make it easier.

There had to be a simpler way to do this. After all, the LARKEN system places a program name at the start of every used track. What could be more simple than to look at these track headers and use them to make up a new directory. That is just what "REPAIR" does.

The listing shown here is suitable for the earlier LARKEN systems (the ones that save 1960 bytes per track). This listing is given because the majority of LARKEN owners in our club have this vintage. I have also modified this program to work on the current vintage i.e. saves 5090 bytes per track. Both programs are available from our LARKEN tape library.

100 REM Disk Directory Repair
for the LARKEN system

110 REM By G. Chambers
14 Richome Court
ough, Ont.

Scarbor
CANADA M1K 2Y1

120 REM Use to reconstruct a da...
ged Directory(Track 0)

130 REM Data statements contain
the "RMHDOS.C2" Code.

135 REM For disks made prior to the Larke
n cartridge DOS, modify lines 720 and 830,
replacing the 34 in each line with a
33.

136 REM Use only with the LKDOS system
i.e. 1960 bytes/track.

140 GO TO 160

150 RANDOMIZE USR 100: SAVE "repair.B1" L
INE 160

160 RESTORE 210

170 FOR n=63000 TO 63104

180 READ a: POKE n,a

190 NEXT n

200 GO TO 290

210 DATA 195,43,246,195,72,246,195,104,24
6,243,205,98,0,201,58

220 DATA 100,0,251,201,205,33,246,58,176,
92,50,29,32,205,126

230 DATA 0,205,123,0,33,112,32,17,16,248,
1,192,7,237,176

240 DATA 195,38,246,205,33,246,58,176,92-
50,29,32,33,16,248

250 DATA 17,112,32,1,192,7,237,176,205,15
0,0,205,126,0,205

```

260 DATA 120,0,195,38,246,205,33,246,205,
129,0,205,123,0,33
270 DATA 112,32,17,16,248,1,192,7,237,176
,195,38,246,201,0
290 DIM a$(79,9): DIM c$(79,9): DIM b$(9)
: DIM d$(256)
300 LET trac=23728: LET nexttrack=63006:
LET loadbuf=63000: LET savebuf=63003
310 LET D=79: LET e=1: LET f=1: LET buffe
r=63500: LET name=63608: LET trackno=6361
8
312 BORDER 1: PAPER 1: CLS
320 PRINT AT 2,7; INK 2; PAPER 6;"LARKEN
DISK UTILITY"; PAPER 1;,,,TAB 2; PAPER 6;"
Directory (Track 0) Recovery"; PAPER 1;,,T
AB 7; PAPER 6;"By George Chambers"
325 INK 3: PLOT 0,108: DRAW 0,62: DRAW 25
5,0: DRAW 0,-62: DRAW -255,0
326 INK 6: PLOT 8,114: DRAW 0,50: DRAW 23
8,0: DRAW 0,-50: DRAW -238,0: INK 7
330 PRINT ""TAB 2;"Install newly-formatt
ed disk""TAB 6;"and press any key": PAUS
E 0
340 POKE trac,0: RANDOMIZE USR loadbuf
350 PRINT AT 10,0;d$:AT 14,1;"Now insert
your defective disk""TAB 2;"and Press an
y key to start": PAUSE 0
360 REM Picking program names off
each successive track
370 POKE trac,1: RANDOMIZE USR loadbuf
380 PRINT AT 10,0;d$
390 PRINT AT 10,0;d$:AT 10,1;"Lifting nam
es off disk tracks";AT 13,8;"Track Prog
ram"
400 PRINT AT 14,9;"No. Name"
410 FOR n=1 TO 79
415 IF n>1 AND PEEK 63518=0 AND PEEK 6351
9=0 THEN LET n=79: GO TO 490
420 LET d=n
430 FOR m=1 TO 9
440 LET a$(n,m)=CHR$.PEEK (63505+M)
450 NEXT m
460 PRINT AT 16,9;n;" ";a$(n)
480 IF n<79 THEN RANDOMIZE USR nexttrack

490 NEXT n
500 REM Placing Used/Free track reco
rd in buffer (Track 0)
510 POKE trac,0: RANDOMIZE USR loadbuf
520 FOR n=1 TO d
530 POKE 63527+n,n+127
540 NEXT n
550 REM Compile the program
names into C$ array
560 PRINT AT 9,0;d$:AT 9,0;"Reconstructio
n of the directory will take a couple of
minutes""TAB 10;"Please wait""TAB 4;"Co
mpiling program names"
570 LET c$(1)=a$(1)
580 FOR n=2 TO d
590 LET b$=a$(n)
600 LET f=0

```

```

610 FOR m=1 TO e
620 IF b$=c$(m) THEN LET f=1
630 NEXT m
640 IF f=0 THEN LET e=e+1: LET c$(e)=b$
650 PRINT AT 16,11;c$(e)
660 NEXT n
670 REM Poke pgm names into
buffer(Track 0)
675 PRINT AT 13,0;d$:AT 14,0;"Placing tra
ck names in directory"
680 FOR n=1 TO e
685 PAUSE 30
690 FOR m=1 TO 9
700 POKE name+m,CODE c$(n,m)
710 NEXT m
720 LET name=name+34
730 PRINT AT 16,11;c$(n)
740 NEXT n
750 REM Poke track numbers in
to buffer (Track 0)
760 LET f=1
770 PRINT AT 13,0;d$:AT 14,0;"Putting Tra
ck No's in Directory"
780 FOR n=1 TO e
790 LET f=1
800 FOR k=1 TO 79
810 IF c$(n)=a$(k) THEN POKE trackno+f,k
+128: LET f=f+1: POKE trackno+f,249
820 NEXT k
830 LET trackno=trackno+34
840 PRINT AT 16,11;c$(n)
850 NEXT n
860 PRINT AT 9,0;d$:AT 10,1;"The director
y has been rebuilt""PAPER 5; INK 2;"R
emove WRITE-PROTECT label from defective
disk and install. "" Press a key to
save to track 0 ": PAUSE 0
870 POKE trac,0: RANDOMIZE USR savebuf
880 PRINT AT 11,0;d$:AT 13,9;"JOB COMPLET
ED": PAUSE 0
890 STOP
1000: SAVE "repair" LINE 10

```

Two Hundred and Sixty Seven
Words From the President

We who run the T. T. S. U. C. would like to cater to your interests in computers, and we would like to print your questions and answers in Sinc-link, as well we would like to know what you would like to see demonstrated at the meetings. Is there a piece of equipment or software that you don't understand and would like to see demonstrated in order to understand it better? Let us know. Do you have a question? Then please ask us, no matter how elementary it may be. WE can't all know everything so by asking you are not being stupid but rather you are being smart because it is by asking that you get the answers that help you to better understand your computer. Don't let all that technological jargon those other guys use scare you, they really don't know what they are talking about, for example, "raise ram top", this means to take the head of a sheep and put it in the attic. "Ram pack" this means more than one sheep. "Rom" as any one knows means Royal Ontario Museum. "Peeking" is a city in China. "Poking" is what my daughter does to get her sister to get her mad. As you can see we don't know any more about computers than you do, so don't be ascaresd to ask your questions; heck, we might even be able to give you the right answers. Your President, S. Eddy Maybee

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